REMARKS

The examiner has rejected claims 1-8, 10, 11, and 19-21 under 35 U.S.C. 103 over Traill et al. in view of Hilbig et al. It is respectfully urged that this ground of rejection has been overcome by the instant amendment.

The claims are directed to a process for the depolymerization of hot water-coagulable cellulose ethers by hydrolytic degradation in an acidic medium and in the presence of an oxidizing agent. The degradation is carried out at a temperature above the cloud point of the cellulose ether as concentrated aqueous slurry. According to the claims, at least one oxidizing agent is added to the concentrated aqueous slurry in an amount of between 0.05 and 5% by weight based on the cellulose ether, before, during and/or after the depolymerization in acidic medium. Such is not suggested by the combination of Traill et al. in view of Hilbig et al.

In the process according to the present invention the depolymerization is carried out in an acidic environment, i.e. at a pH of less than 7. In contrast, Hilbig teaches a process for the depolymerization in an alkaline medium, i.e. in a range of "greater than 7, preferably from 7 to 14" (col. 6, l. 46 - 48). A person of ordinary skill in the field of cellulose chemistry thus would have concluded that in the process of Hilbig an alkaline pH, but not a neutral pH (pH 7) should be adjusted.

Traill teaches a process for reducing the viscosity of a cellulose ether, in which the cellulose ether is treated with a dilute acid, at a pressure of 10 to 75 pounds per square inch and a temperature of from 115 to 160 °C (page 1, l.79 - 81). As a diluent water and alcohol are preferred (p. 1, l. 51) The weight of the dilute acid is several times higher than the weight of the cellulose ether (col. 1, l. 40 - 44), thus the degradation of the cellulose

ether takes place as aqueous or alcoholic slurry (p. 1, l. 40 - 53). Oxidants were not contemplated by Traill.

Contrary thereto, Hilbig teaches an oxidative process for reducing the viscosity of a cellulose ether in a suspension, e.g. in a slurry (col. 3, lines 37 - 46). In the process, a suspension of the cellulose ether is treated with perborate as an oxidizing agent in an alkaline medium (col. 6, l. 46 - 48). The pH of the suspension is "*greater than 7, preferably form 7 to 14*". Hilbig thus teaches away from using perborate in an acidic environment. Furthermore, oxidative depolymerization of Hilbig takes place at a temperature of from 25 to 90 °C (col. 3, l. 45), which is considerably below the temperature range as taught by Traill. A person of oridinary skill in the art would not have found any motivation to employ the perborate of Hilbig in an acidic depolymerization process as taught by Traill. The combination of the teachings of Traill and Hilbig thus cannot render obvious the subject matter of the present claims.

The examiner takes the position that Traill et al. teaches each feature of the present claims except for the addition of an oxidizing agent as described in the present claim 1. In an effort to fill this void, the examiner cites Hilbig. However, Applicants respectfully submit that the examiner is merely selecting and combining features from references where there is no suggestion in those references to do so. Further, it is urged that even upon such a combination, the present claims would not be obviated.

Traill teaches a process of lowering the viscosity of cellulose ethers by treating a high viscosity cellulose ether with a dilute acid at an elevated temperature (115 - 160°C) and elevated pressure for approximately 20 minutes to 1 hour (see Traill, page 1, lines 23-39) until the viscosity of the ether has been reduced as far as desired. The acid concentration is in the range of 0.5 to 5.0% by weight (see Traill, page 1, line 93). Hydrochloric acid may be employed as the acid (see Example 1), and the weight of the dilute acid is shown as being several times higher than the weight of the cellulose ether. Importantly, as the examiner admits, Traill, et al does not disclose nor suggest the inclusion of an oxidizing agent during his process. Traill teaches a process for reducing the viscosity of a cellulose ether, in which the cellulose ether is treated with a dilute acid, at elevated

pressure and increased temperature. The degradation of the cellulose ether thus takes place in an aqueous acidic environment without an oxidizing agent.

Indeed Hilbig discloses a controlled oxidative degradation or depolymerization of a polysaccharide ether. Hilbig teaches an oxidative. In contrast to both Taill, et al and the present invention, according to Hilbig's process a suspension of the cellulose ether is treated with perborate as an oxidizing agent in an alkaline medium. This is specifically disclosed at column 6, lines 46-49 of Hilbig, which states that "the depolymerization of polysaccharide ethers takes place in an alkaline medium, i.e. at a pH of the slurry or suspension of greater than 7, preferably from 7-14." Applicants urge that the disclosure of Hilbig *teaches away* from using an oxidizing agent, in an acidic environment. It is therefore submitted that a person of ordinary skill in the art *would not* have found any motivation to employ the oxidizing agent of Hilbig in an acidic medium as required by Traill.

Hilbig does not disclose or suggest use of an *acid* in an aqueous slurry. Rather, it describes a process using *alkaline* reaction conditions, while the present invention uses *acidic* reaction conditions. It is urged there would be no suggestion to those skilled in the art to add Hilbig's oxidizing agent to Traill's composition.

In summary:

1. Traill, et al teaches an acidic environment without an oxidizing agent.
2. Hilbig, et al teaches an alkaline environment with an oxidizing agent.
3. The present invention claims an acidic environment with an oxidizing agent.
4. There is no suggestion from the combination of Trail, et al and Hilbig, et al to employ an acidic environment with an oxidizing agent. There is no suggestion from the art that one could or should extract the oxidizing agent from Hilbig, et al's alkaline environment and insert it into Traill, et al's acidic environment.

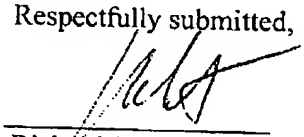
The examiner's arguments for combining Traill, et al and Hilbig, et al are misplaced. The mere fact that each is generally concerned with depolymerizing cellulose ethers does

not imply that the particularly selected techniques of Traill, et al and Hilbig, et al could or should be combined, as the examiner is doing. The required motivation to establish a *prima facie* case of obviousness in the first instance would be a suggestion or motivation *to combine the techniques* of the references, not merely because the references have a similar goal. Applicants respectfully submit that the examiner is impermissibly reconstructing the art in light of applicant's disclosure.

For the above reasons, it is urged that a person of ordinary skill in the art would not have been inspired to look to the disclosure of Hilbig or Traill, either alone or in combination, in an effort to formulate the presently claimed invention. It is urged that there is nothing in the cited art which would teach or suggest how or why one would combine the teachings of these references in an effort to devise the presently claimed invention. Applicants therefore respectfully request that the 35 U.S.C. 103 rejection be withdrawn

The undersigned respectfully requests re-examination of this application and believes it is now in condition for allowance. Such action is requested. If the examiner believes there is any matter which prevents allowance of the present application, it is requested that the undersigned be contacted to arrange for an interview which may expedite prosecution.

Respectfully submitted,



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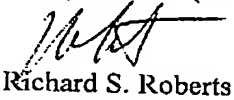

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